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Ruijia Li

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EXAMINER

KIM, HEE-YONG

ART UNIT

PAPER NUMBER

2482

MAIL DATE

DELIVERY MODE

10/07/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,053	Applicant(s) LI ET AL.	
	Examiner HEE-YONG KIM	Art Unit 2482	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 21-28 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 21-28 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/26/2011</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Response to Amendment

1. This office action is in reply to Applicant's Response dated August 15, 2011.
2. **All the previous claims 1-20** have been cancelled.
3. **Claims 21-28 are newly added.**
4. **Claims 21-28** are pending.

Response to Arguments

5. Applicant's arguments with respect to claims 21-18 have been considered but are moot in view of the new ground(s) of rejection.

Information Disclosure Statement

6. The information disclosure statement filed August 26, 2011 fails to comply with 37 CFR 1.97(c) because it lacks a statement as specified in 37 CFR 1.97(e) or the fee set forth in 37 CFR 1.17(p). It has been placed in the application file, but the information referred to therein has not been considered. Examiner noticed that applicant submitted IDS under 37 CFR 1.97(b). However, since IDS is submitted after the first office action on the request of continued examination, it does not comply with the period set forth in 37 CFR 1.97(b). I should comply with 37 CFR 1.97(c).

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Art Unit: 2482

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 27-28 are rejected under 35 U.S.C. 101 because they are directed towards nonstatutory subject matter.

Claim 27 and 28 sets forth a “**computer readable storage medium.**” The United States Patent and Trademark Office (USPTO) is obliged to give claims their broadest reasonable interpretation consistent with the specification during proceedings before the USPTO. *See In re Zletz*, 893 F.2d 319 (Fed. Cir. 1989) (during patent examination the pending claims must be interpreted as broadly as their terms reasonably allow). The broadest reasonable interpretation of a claim drawn to a computer readable storage media (also called machine readable medium and other such variations) typically covers forms of **non-transitory** tangible media and transitory propagating signals *per se* in view of the ordinary and customary meaning of computer readable media, particularly when the specification is absent an explicit definition or is silent. *See* MPEP 2111.01. When the broadest reasonable interpretation of a claim covers a signal *per se*, the claim must be rejected under 35 U.S.C. § 101 as covering non-statutory subject matter. *See In re Nuijten*, 500 F.3d 1346, 1356-57 (Fed. Cir. 2007) (transitory embodiments are not directed to statutory subject matter) *and Interim Examination Instructions for Evaluating Subject Matter Eligibility Under 35 U.S.C. § 101*, Aug. 24, 2009; p. 2

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 21-28** are rejected as being unpatentable over Kuhn (US 2002/0,157,112) in view of Vetro (US 6,490,320), further in view of Azadegan (US 5,612,900), hereafter referenced as Kuhn and Vetro and Azadegan.

Regarding **claim 21**, Kuhn discloses Method and Apparatus for Generating Compact Transcoding Hints Metadata. Kuhn specifically discloses A method (Fig.1) Transcoding System) comprising: defining (Description of Region of Interest , Fig.13) a first part of a frame (Region of Interest, paragraph 84 and 85) as containing sensitive information (Region or Object or of Interest, paragraph 85), wherein the frame includes the first part (Region of Interest, paragraph 84 and 85) and a second part (Not Region of Interest), the first part being identified as an area of the frame (Region of Interest, paragraph 84 and 85), the second part being identified as another area of the frame (Not Region of Interest); transcoding (Audiovisual Transcoding 106, Fig.1) the first part of the frame at a higher bit rate than the second part of the frame (higher bit rate for the region of interest, paragraph 85) based on bandwidth available for transmitting the transcoded frame (different bitrate for different bandwidth, paragraph 2).

Art Unit: 2482

However Kuhn fails to disclose such that the transcoding further includes:

detecting first network congestion;

in response to the detecting of the first network congestion,

reducing the bit rate of the second part of the frame while maintaining the bit rate of the

first part of the frame; detecting second network congestion;

in response to the detecting of the second network congestion, reducing the bit rates of

the first and second parts of the frame wherein the bit rate of the second part of the

frame is reduced more than the bit rate of the first part of the frame is reduced;

detecting third network congestion;

in response to the detecting of the third network congestion, reducing the bit rate of an

area of the frame having a priority level less than the highest priority level to a bit rate

that corresponds to that of the second part of the frame.

In the analogous field of endeavor, Vetro discloses Adaptable Bitstream Video Delivery System. Vetro specifically discloses detecting a first and second network congestions (report network congestion and available bit rate, col.8, line 9-10), and reducing frame rate (equivalent to *reducing bit rate*) for the background (*the second part, low priority*) while keeping the information (*bit rate*) about the foreground (*first part, high priority*) intact (col.11, line 40-43), in order to convert compressed input bitstream to output bitstream at an available bit rate (col.5, line 60-64).

Therefore, given this teaching, it would have been obvious to modify Kuhn by providing wherein transcoding further comprises: reducing the bit rate of the second part of the frame while maintaining the bit rate of the first part of the frame if the available

Art Unit: 2482

bandwidth reduces, in order to convert compressed input bitstream to a output bitstream at an available bit rate. However Kuhn and Vetro still fails to disclose *in response to the detecting of the second network congestion, reducing the bit rates of the first and second parts of the frame wherein the bit rate of the second part of the frame is reduced more than the bit rate of the first part of the frame is reduced.*

However, it was obvious, in the case of another severe network condition, reducing the bit rate of the second part of the frame while maintaining the bit rate of the first part of the frame is not enough for matching available bandwidth. Therefore, the bit rate of the first part should be reduced in addition to reducing the bit rate of the second part such that *second parts of the frame wherein the bit rate of the second part of the frame is reduced more than the bit rate of the first part of the frame is reduced* to allocate more bits to the priority region, in order to adjust bit rate according to further reduced bandwidth due to the second network congestion.

Therefore, given this teaching, it would have been obvious to modify Kuhn and Vetro by specifically providing *in response to the detecting of the second network congestion, reducing the bit rates of the first and second parts of the frame wherein the bit rate of the second part of the frame is reduced more than the bit rate of the first part of the frame is reduced, in order to adjust bit rate according to further reduced bandwidth due to the second network congestion.* However, Kuhn and Vetro still fails to teach “detecting third network congestion; in response to the detecting of the third network congestion, reducing the bit rate of an area of the frame having a priority level

Art Unit: 2482

less than the highest priority level to a bit rate that corresponds to that of the second part of the frame".

In the analogous field of endeavor, Azadegan discloses Video Encoding Method and System which Encodes Using Rate-quantizer Model. Azadegan specifically discloses multiple priorities for different regions in a frame of video by user selection (Fig.21) and quantize differently based on the priorities (Fig.22), in order to do rate control based on target quality and target storage size (abstract).

Therefore, given this teaching, it would have been obvious to modify Kuhn and Vetro by specifically providing multiple priorities for different regions in the first part of the frame by user selection, in order to do rate control based on target quality and target rate based on the network congestion. And it was obvious, in the case of another severe network condition (third network congestion), further reducing the bit rate of the first part by reducing the bit rate of an area of the frame having a priority level less than the highest priority level to a bit rate that corresponds to that of the second part of the frame, in order to match the output bitrate with the further reduced bandwidth. The Kuhn method, incorporating the Vetro reducing the bit rate of the second part of the frame while maintaining the bit rate of the first part of the frame if the available bandwidth reduces, further incorporating detecting of the second network congestion and upon it reducing the bit rates of the first and second parts of the frame wherein the bit rate of the second part of the frame is reduced more than the bit rate of the first part of the frame is reduced, further incorporating the Azadegan multiple priorities for different regions in the first part of the frame by user selection, further incorporating detecting of

Art Unit: 2482

the third network congestion and upon it reducing further the bit rates of the first part of the frame wherein the bit rate of an area of the frame having a priority level less than the highest priority level is reduced to a bit rate that corresponds to that of the second part of the frame, discloses all the features of claim 21.

Regarding **claim 22**, Kuhn and Vetro and Azadegan disclose everything claimed as applied above (see claim 21). In addition, Azadegan disclose wherein the first part contains more bits per macroblock than the second part (Fig.22; less bits are used in low priority macroblocks, col.37, line 26-29).

Regarding **claim 23**, the claim is a system claim corresponding to the method claim 21. Therefore, it is rejected for the same reason as claim 21.

Regarding **claim 24**, Kuhn and Vetro and Azadegan disclose everything claimed as applied above (see claim 23). In addition, Kuhn discloses further comprising: memory (Audiovisual Transcoding Hints Metadata Buffer 105, Fig.1) to store a configuration file (metadata, paragraph 17) including a coordinate (spatially describe, paragraph 85) of an item in the first part of the frame, wherein the item is one of an object and an area (Region or Object or of Interest, paragraph 85).

Regarding **claim 25**, Kuhn and Vetro and Azadegan disclose everything claimed as applied above (see claim 23). Kuhn further discloses file analyzer (Kuhn: Transcoding Hints Generation Unit 104, Fig.1) to convert a format of the configuration file (Kuhn: Transcoding Hints DS 1001, Fig.10) into another format (Kuhn: Fig.16. transcoding hints state meta-data, including bit rate and quantizer scale), compatible with the transcoder.

Regarding **claim 26**, Kuhn and Vetro and Azadegan disclose everything claimed as applied above (see claim 23). Kuhn and Vetro further discloses wherein the sensitive-information generator (Kuhn: Transcoding Hints Generation Unit 104, Fig.1) sends the definition of the first frame (Kuhn: Audiovisual Transcoding Hints Metadata Buffer 105, Fig.1) to the transcoder and receives a status of the bandwidth (Vetro: report network congestion and available bit rate, col.8, line 9-10) from the transcoder.

Regarding **claim 27**, the claim is a computer readable storage medium claim corresponding to the method claim 21. Therefore, it is rejected for the same reason as claim 21.

Regarding **claim 28**, Kuhn and Vetro and Azadegan disclose everything claimed as applied above (see claim 27). In addition, Azadegan disclose wherein the first part contains more bits per macroblock than the second part (Fig.22; less bits are used in low priority macroblocks, col.37, line 26-29).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 2482

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HEE-YONG KIM whose telephone number is (571)270-3669. The examiner can normally be reached on Monday-Thursday, 8:00am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/583,053
Art Unit: 2482

Page 11

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